

# STIC Search Report

## EIC 3700

STIC Database Tracking Number: 205610

**TO: Laura C Hill**  
**Location: RND 6b76**  
**Art Unit: 3761**  
**Friday, December 01, 2006**

**Case Serial Number: 10/606442**

**From: Rita Burton**  
**Location: EIC 3700**  
**RND 8B31**  
**Phone: 571 272 8662**

**rita.burton@uspto.gov**

### Search Notes

Dear Examiner Hill,

Attached is the completed search, Nebulizing catheter system and methods of use and manufacture.

Per your request, I have gone outside the medical environment to look for methods which subject flexible tubing to heat for the purpose of selectively deforming it. I have attempted to observe the Priority Date of 6/94.

I searched the subject in the Patent as well as Non-Patent Literature and the results are included. I did an extensive search on the requested topic in a number of bibliographic and full-text databases. I have flagged items of highest interest, but please be sure to look over all the results as there may be other items of interest. I have attached the search strategies used for the searches performed.

I hope you find this search helpful. If you have a moment, please fill out the attached STIC Feedback Form. If there is anything I can do to refine or revise this search, please let me know.

Rita Burton  
EIC 3700, Randolph 8B31  
(571) 272-8662  
Rita.Burton@uspto.gov



Solomon, Terrance

205610

From: LAURA HILL [laura.hill@uspto.gov]  
Sent: Tuesday, October 24, 2006 2:11 PM  
To: STIC-EIC3700  
Subject: Database Search Request, Serial Number: 10/606,442

Requester:  
LAURA HILL (P/3761)

Art Unit:  
GROUP ART UNIT 3761

Employee Number:  
80706

Office Location:  
RND 06B76

Phone Number:  
(571)272-7137

Mailbox Number:  
RND6B76

Case serial number:  
10/606,442

Class / Subclass(es):  
128/207.14

Earliest Priority Filing Date:  
6-17-94

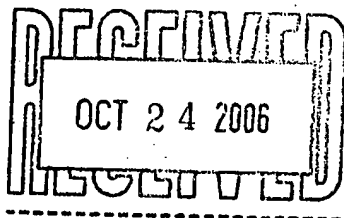
Format preferred for results:  
Paper

Search Topic Information:

method of forming a nebulizing catheter comprising:  
providing a multilumen extruded tubing, heating the tubing to a transition temperature,  
forming a j-shaped and curvilinear distal section in the tubing, forming multiple  
orifices/openings at the distal section

Special Instructions and Other Comments:

Normally in the office 7:30 am-5:00 pm Monday through Friday (off every other  
Friday)



Set	Items	Description
S1	1273728	S CATHETER? OR CONDUIT? ? OR CANNULA? ? OR CANNULA? OR CANULA? OR CANULA? OR TUBE?
S2	2834327	? OR TUBING OR TUBUL? OR TUBIFORM? OR PIPETTE? ?
S3	99254	S POLYMER? OR POLYETHYLENE? OR PLASTIC? OR FLEXIBL?
S4	4354911	S S1(10N)S2
S5	7969	S HEAT??? OR TEMPERATURE? OR MELT? OR THERMAL? OR WARM? OR TRANSITION?(3N)TEMPERATURE?
S6	194167	S S3(7N)S4
S7	217770	S MULTILUMIN? OR MULTI()LUMIN? OR MULTILUMEN? OR MULTI()LUMEN? OR DUALLUMEN? OR COAXIAL?
S8	1527340	S LUMEN? OR LUMIN?
S9	6393164	S DOUBLE OR DUAL OR DUALY OR PARALLEL OR NESTED OR COEXTEN?
S10	15158	S MULTIPL? OR PLURAL? OR MULTI OR SEVERAL OR SOME OR MANY OR TWO OR (MORE OR GREATER OR EXCEED?)(2N)(ONE OR TWO OR SINGLE)
S11	259	S S7(3N)(S8 OR S9)
S12	1330559	S S5 AND (S6 OR S10)
S13	805645	S PORES OR PORED OR HOLES OR HOLED OR OPENINGS OR STOMAE OR STROMAS OR APERTURES OR APERTURED OR ORIFICES OR ORIFICED OR SLITS OR SLITTED OR PERFORATIONS OR PERFORATED OR PERFORATE OR PIERCED OR VENTS OR VENTED OR FENESTRAS OR PORTS OR OUTLETS
S14	2158275	S (C OR V OR VEE OR U OR J OR JAY)(3N)(SHAPE? OR SHAPING) OR J()TYPE? ? OR HOOK? OR HOOK-SHAPE? OR FISHHOOK-SHAPE? OR CURV??? OR CURVILINEAR?
S15	5036767	S BENT OR BEND OR BENDING OR FLEX? OR COIL??? OR RIGHT(3N)ANGL??? OR CROOK??? OR PIGTAIL? OR BOWED OR BOWING OR ARCH??? OR SEMICIRC? OR CIRCULAR? OR CURL??? OR LOOPED OR LOOPING OR ROUNDED OR HALFMOON? OR HALF()MOON? OR CRESCENT? OR HAIRPIN? OR HAIR()PIN?
S16	90659	S (TIP? ? OR END OR DISTAL? OR TERMIN? OR POINT)
S17	196981	S S13(5N)S15
S18	1	S S14(5N)S15
S19	33	S S11 AND S12 AND S16
S20	18	S S11 AND S12
S21	15	S S19/1995:2006
S22	15	S S19 NOT S20
S23	10055825	IDPAT (sorted in duplicate/non-duplicate order)
S24	7228562	S METHOD? OR MEANS OR TECHNIQUE? OR PROCESS?? OR MANNER
S25	2490	S MANUFACTURING OR PRODUCTION OR PRODUCING OR MAKING OR MADE OR FORMING
S26	898	S S1 AND (S6 OR S10) AND S23(3N)S24
S27	637	S S25 AND S4
S28	261	S S26/1995:2006
S29	0	S S26 NOT S27
S30	11	S S28 AND S16
S31	10	S S28 AND S17
S32	10	S S28 AND IC=A61M?
S33	74	S S31 NOT 30
		S S28 AND S2

? show files

[File 347] JAPIO Dec 1976-2006/Jul(Updated 061116)

(c) 2006 JPO & JAPIO. All rights reserved.

[File 350] Derwent WPIX 1963-2006/UD=200676

(c) 2006 The Thomson Corporation. All rights reserved.

\*File 350: DWPI has been enhanced to extend content and functionality of the database. For more info, visit <http://www.dialog.com/dwpi/>.

30/12/4 (Item 3 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0004476874

WPI Acc no: 1988-220191/198831

**Balloon catheter and method of production - has main body with annular groove formed on peripheral surface at tip of flexible tube member which has internal passage**

Patent Assignee: ISHITSU Y (ISHI-I); TERUMO CORP (TERU)

Inventor: ISHITSU Y; SEKII S; TSUCHIDA K

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1988005316	A	19880728	WO 1988JP23	A	19880112	198831	B

Priority Applications (no., kind, date): JP 1987158145 A 19870625; JP 19875824 A 19870113; JP 19875823 A 19870113; JP 1987158143 A 19870625

National Designated States: AU DK US

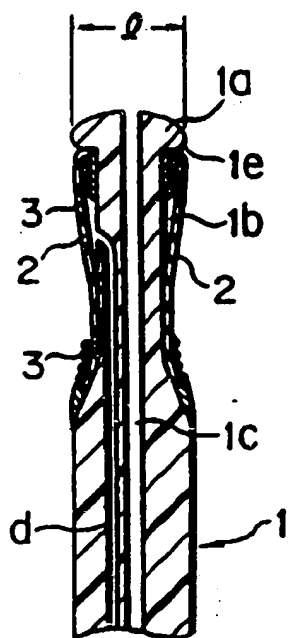
Regional Designated States: BE DE FR GB IT SE

#### Alerting Abstract WO A

The balloon **catheter** comprises a main body having an annular groove formed on the peripheral surface at the **tip** of a **flexible tube** member which has at least one internal passage. A balloon disposed in such a manner that its outer diameter, when it is not inflated, is equal to, or smaller than, the maximum outer diameter of the tip of the **tube** member. The balloon is inflated or deflated through a balloon inflation/deflation internal passage openings to the bottom of the annular groove.

The **method of producing** the balloon comprises reducing the diameter of the **tip** of a **flexible tube** member to such an extent that a necessary internal passage does not disappear. A **tubular heat-resistant** member is fitted over the part of the tip having the reduced diameter, at which the balloon is to be fitted. It is molded in a spherical shape so that part of the tip extends beyond the **tubular heat-resistant** member, removing the **tubular heat-resistant** member and fitting the balloon.

#### Main Drawing Sheet(s) or Clipped Structure(s)



**Title Terms /Index Terms/Additional Words:** BALLOON; **CATHETER**; METHOD; PRODUCE; MAIN; BODY; ANNULAR; GROOVE; FORMING; PERIPHERAL; SURFACE; TIP; FLEXIBLE; **TUBE**; MEMBER; INTERNAL; PASSAGE

#### Class Codes

##### International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61M-025/00; A61M-025/10			Main		"Version 7"

US Classification, Issued: 604096000, 604100000, 606192000

File Segment: EngPI; EPI;

DWPI Class: S06; W02; P34; P82

32/12/1 (Item 1 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0006985327

WPI Acc no: 1994-324510/199440

XRAM Acc no: C1994-151791

XRFX Acc No: N1994-261908

**Manufacturing process for a fibre scopic catheter - involves expanding the lumen under heat and pressure, cooling, inserting the fibre glass bundle, then reheating to contract the lumen.**

Patent Assignee: SHERWOOD MEDICAL CO (SHES)

Inventor: OKADA Y; SUZUKI Y

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 5354518	A	19941011	US 199316924	A	19930211	199440	B

Priority Applications (no., kind, date): US 199316924 A 19930211

#### Alerting Abstract US A

In a first embodiment, a single-tubed catheter (1) of PVC containing 40 percent of plasticiser is heated to 80 deg.C for 5 minutes and then pressurised to 2 atmospheres for 5 minutes. It is then allowed to cool for 10 minutes at ambient temperature whilst still under pressure, after which pressure is released and the lumen (2a), which has expanded from 1.5 mm to about 2.3 mm, will retain its new dimension. An optical glass fibre bundle (3) comprising a lighting guide (5) disposed in crescent shape around an imaging guide (4) is then inserted into lumen (2a). The assembly is then heated to 100 deg.C for 10 minutes at atmospheric pressure to cause the catheter to contract firmly around the glass fibre bundle (3) to an overall diameter of about 2.3 mm. In a second embodiment, the catheter is first inserted into a rigid cylinder of predetermined inner diameter to limit the degree of expansion during the heating process. In a third embodiment, a rod of predetermined diameter is inserted into at least one of a multi lumen catheter, again to limit the amount of deformation taking place.

USE - For endoscopic viewing of internal body passages, e.g. blood vessels.

ADVANTAGE - Minimises the outer diameter of the catheter by shrinking the outer cover around the glass fibre bundle, leaving no empty spaces around the fibres. (Reissued from week 9440 to add EPI classifications/ Reprinted in week 9442)

**Title Terms /Index Terms/Additional Words:** MANUFACTURE; PROCESS; FIBRE; CATHETER; EXPAND; LUMEN; HEAT; PRESSURE; COOLING; INSERT; GLASS; BUNDLE; REHEAT; CONTRACT

#### Class Codes

##### International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61M-0025/00	A	I		R	20060101
B29C-0061/08	A	I		R	20060101
A61M-0025/00	C	I		R	20060101
B29C-0061/06	C	I		R	20060101

US Classification, Issued: 264001250, 128004000, 264516000, 264573000, 264230000, 264342R00, 264DIG, 264001280

File Segment: CPI; EPI

DWPI Class: A96; S05; V07

Manual Codes (EPI/S-X): S05-D04; V07-F01A1B; V07-N

Manual Codes (CPI/A-N): A04-E02C; A08-P01; A11-B02E; A11-B08C; A11-B09A2; A12-L03A; A12-V03B; A12-V03C2

### Chemical Indexing

Plasdoc Codes (KS): 0207 0209 0229 0231 0759 2231 2236 2368 2371 2372 2378 2413 2414 2495 2534 2601 2666 2768 2830 2850 3258 3288

Polymer Fragment Codes (PF):

\*001\* 017 03- 04- 061 062 063 315 331 369 387 388 427 428 429 45- 474 489  
50& 541 547 57& 604 607 643 645 650 651 674 688 726

Specific Compound Numbers: R00338

Derwent Chemistry Resource Numbers: (Linked) 621-DIS; 621

Key Word Indexing

\*1\* 621-DIS

Polymer Indexing

(01)

\*001\* 017; G0544 G0022 D01 D12 D10 D51 D53 D58 D69 D82 C1 7A R00338-R 621-R  
; H0000; S9999 S1661; P1796 P1809  
\*002\* 017; ND01; K9416; Q9999 Q7998 Q7987; Q9999 Q8026 Q7987; ND07; N9999  
N6177-R; N9999 N6951; N9999 N6337-R; N9999 N5812-R; N9999 N7294;  
Q9999 Q8311 Q8264; B9999 B5550 B5505; B9999 B5538 B5505  
\*003\* 017; A999 A384

32/12/2 (Item 2 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0006623592

WPI Acc no: 1993-404900/199350

Related WPI Acc No: 1991-095903; 2001-023083; 2004-689817; 2004-747088

XRAM Acc no: C1993-179892

XRPX Acc No: N1993-313431

**Catheter balloon failing by rapid rupture - has high strength biaxially oriented layer and co-extruded bondable inner layer**

Patent Assignee: SCHNEIDER USA INC (PFIZ)

Inventor: HAMLIN R N

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 5270086	A	19931214	US 1989411649	A	19890925	199350	B
			US 1991727664	A	19910709		

Priority Applications (no., kind, date): US 1989411649 A 19890925; US 1991727664 A 19910709

#### Alerting Abstract US A

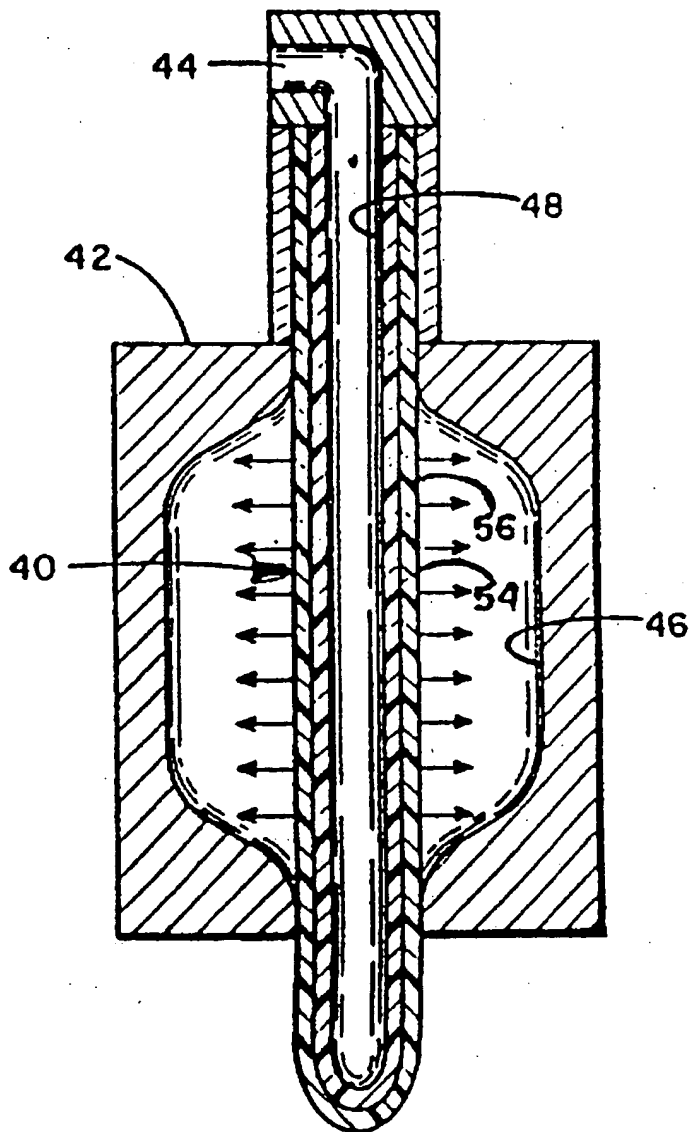
A **coaxially** multilayered expander for attachment to a **catheter** has an outer extruded tensile layer (54) of biaxially-oriented **tubular** polymer film and an inner co-extruded layer (48) of polymer film which is readily **melt-** or adhesively bondable to the **catheter**.

The outer layer is pref. of ABS, ABS/nylon, ABS/PVC, ABS/polycarbonateacrylonitrile copolymer, polyacrylamide, polyacrylate, polyacrylosulphone, PET, polybutylenetererphthalate, polyethylenenaphthalate, LC polymer, polyester/polycaprolactone, polyester/polyadipate, PEEK, polyethersulphone, polyetherimide, polyetherketone, polymethylpentene, polyphenyleneether, polyphenylenesulphide, styrene-acrylonitrile, or nylon 6, 6/6, 6/66, 6/9, 6/10, 6/12, 11 or 12. The inner layer is pref. of ethylene-propylene, EVA, ethylene-vinyl alcohol, ionomer, polyethylene type I-IV, polyolefin, polyurethane, PVC or polysiloxane. The outer layer is pref. coated with polycaprolactam, polyvinylindol, polyvinylpyrrolidone or hydrogel.

ADVANTAGE - Fails by rapid rupture to avoid tissue damage caused by pinhole leaks.

#### Main Drawing Sheet(s) or Clipped Structure(s)





**Title Terms /Index Terms/Additional Words:** CATHETER; BALLOON; FAIL; RAPID; RUPTURE; HIGH; STRENGTH; BIAXIAL; ORIENT; LAYER; CO; EXTRUDE; BOND; INNER

#### Class Codes

##### International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61M-029/02			Main		"Version 7"

US Classification, Issued: 428035200, 428036900, 428036920, 606192000, 604096000

File Segment: CPI; EngPI  
DWPI Class: A96; E33; P34

Manual Codes (CPI/A-N): A11-B07B; A12-V03B

### Chemical Indexing

Plasdoc Codes (KS): 0004 0020 0029 0031 0207 0209 0218 0231 0232 0233 0239 0240 0241 0250 0269 0306 0307  
0375 0376 0377 0619 0759 0789 0906 1096 1279 1280 1283 1285 1288 1291 1292 1294 1304 1306 1309 1403  
1450 1804 1810 2513 2514 2518 2629 2718 2726 2768 2843 3089 3142 3148 3151 3153 3155 3160 3161 3173  
3174 3175 3176 3177 3178 3179 3197 3258

### Polymer Fragment Codes (PF):

\*001\* 017 034 038 04- 040 041 046 05- 055 056 061 062 063 072 074 076 080  
086 117 122 141 143 144 147 148 153 155 156 157 158 160 161 162 163  
166 171 173 175 192 193 195 206 207 27& 27- 28& 435 477 494  
497 50& 51& 546 551 56& 567 643 645 651 684 688 69&  
698  
\*002\* 017 034 04- 041 046 047 05- 050 061 062 063 066 067 150 229 24-  
27& 334 38- 435 50& 551 567 58& 582 643 645 651 688  
69&  
\*003\* 017 04- 101 141 192 193 443 477 50& 551 567 643 645 651 688

32/12/3 (Item 3 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0005329553

WPI Acc no: 1990-327326/199043

XRAM Acc no: C1990-142040

XRFX Acc No: N1990-250459

**Mfg. haemodialysis catheter - using heat, pressure and mandrels for assembling thermoplastic blood extn. and return tubes**

Patent Assignee: VAS-CATH INC (VASC-N)

Inventor: MARTIN G S

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 4961809	A	19901009	US 1988184529	A	19880421	199043	B

Priority Applications (no., kind, date): US 1988184529 A 19880421

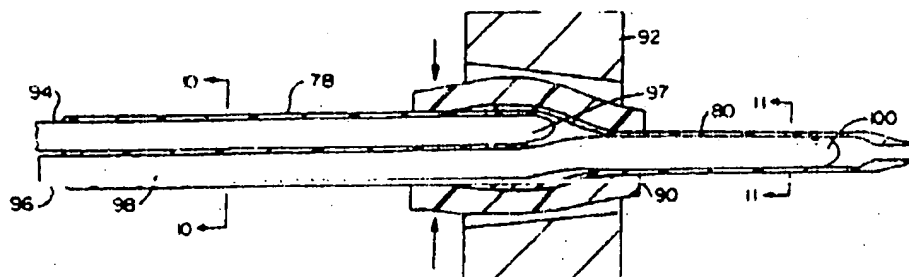
#### Alerting Abstract US A

Mfg. a **dual lumen catheter**, uses **heat**, pressure and mandrels for assembling and shaping thermoplastic blood extn. **tube** , and blood return **tube**.

A transition zone between the two **tubes** is formed by **heat** and pressure applied while mandrels are inside the **tubes**, both pref. of D-shaped cross-section.

USE - In haemodialysis treatment. @(15pp Dwg.No.11/21)@

#### Main Drawing Sheet(s) or Clipped Structure(s)



**Title Terms /Index Terms/Additional Words:** MANUFACTURE; HAEMODIALYSIS; CATHETER; HEAT; PRESSURE; MANDREL; ASSEMBLE; THERMOPLASTIC; BLOOD; EXTRACT; RETURN; TUBE

#### Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
-----	-------------	-------	----------	--------	--------------

A61M-005/00; B29C-057/00; B29C-065/18			Secondary		"Version 7"
--	--	--	-----------	--	-------------

US Classification, Issued: 156294000, 156322000, 264248000, 264322000, 604043000, 604280000

File Segment: CPI; EngPI

DWPI Class: A32; A96; P34

Manual Codes (CPI/A-N): A12-V03B

### Chemical Indexing

Plasdoc Codes (KS): 0231 1294 2464 2534 2768 3258

Polymer Fragment Codes (PF):

\*001\* 014 04- 150 456 459 489 50& 643 645 651 674 721

32/12/6 (Item 6 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0004523119

WPI Acc no: 1988-271040/198838

XRAM Acc no: C1988-120648

XRPX Acc No: N1988-205803

**Expandible member located in catheter - is obtd. by forming thermoplastic resin tube and heating in moulding die, contacting with inner surface of die, cooling, etc.**

Patent Assignee: NOBUYOSHI M (NOBU-I); TERUMO CORP (TERU)

Inventor: NOBUYOSHI M; SAGAE K; SAKAE H; SUGIYAMA Y

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1988006465	A	19880907	WO 1988JP202	A	19880225	198838	B

Priority Applications (no., kind, date): JP 1987279699 A 19871105; JP 1987279698 A 19871105; JP 198747977 A 19870303; JP 198746195 A 19870227; JP 19887231 A 19880115

National Designated States: AU KR US

Regional Designated States: BE DE FR GB IT NL SE

#### Alerting Abstract WO A

A **catheter** has an expandible member for expanding a constricted portion inside a blood vessel which comprises an inner **tube** having a first lumen whose tip is open; an outer **tube** disposed **coaxially** with the inner **tube**, having the tip at a position recessed by a predetermined length from the tip of the inner **tube** and forming a second lumen between it and the outer surface of the inner **tube**; a contractible or foldable expandible member having the tip portion fitted to the inner **tube** and the base end portion fitted to the outer **tube**, and communicating with the second lumen near the base end portion; and a rigidity imparting member having a first opening communicating with the first lumen disposed at the base end portion of the inner **tube** and a second opening communicating with the second lumen disposed at the base end portion of the outer **tube**, and in at least one of the inner and outer **tubes** so as to extend in an axial direction.

Prodn. of an expandible member for use in a **catheter**, comprises forming a thermoplastic resin **tube** and **heating** an expandible member forming portion of this **tube**; disposing the **heated** expandible member forming portion of the **tube** in an expandible member moulding die the inner surface of which is formed in a shape obtainable when the expandible member is inflated; bringing the **heated** expandible member forming portion of the **tube** disposed in the expandible member moulding die into close contact with the inner surface of the moulding die by pressurising the inside of said **tube**; cooling the expandible member forming portion of the **tube**; removing the expandible member moulding die from the **tube**; and cutting the moulded expandible member portion off the **tube**.

**Title Terms** /Index Terms/Additional Words: EXPAND; MEMBER; LOCATE; **CATHETER**; OBTAIN; FORMING; THERMOPLASTIC; RESIN; **TUBE** ; **HEAT**; MOULD; DIE; CONTACT; INNER; SURFACE; COOLING

**Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61M-025/00; A61M-029/04			Main		"Version 7"

US Classification, Issued: 606192000, 606194000, 604096000, 604282000

File Segment: CPI; EngPI

DWPI Class: B07; P34

Manual Codes (CPI/A-N): B11-C04B

**Chemical Indexing**

Chemical Fragment Codes (M6):

\*01\* M903 R410 R501 127-D

Derwent Chemistry Resource Numbers: (Linked) 127-D; 127-RGT

Key Word Indexing

\*1\* 127-RGT

33/5/5 (Item 1 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0006985327

WPI Acc no: 1994-324510/199440

XRAM Acc no: C1994-151791

XRFX Acc No: N1994-261908

**Manufacturing process for a fibre scopic catheter - involves expanding the lumen under heat and pressure, cooling, inserting the fibre glass bundle, then reheating to contract the lumen.**

Patent Assignee: SHERWOOD MEDICAL CO (SHES)

Inventor: OKADA Y; SUZUKI Y

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 5354518	A	19941011	US 199316924	A	19930211	199440	B

Priority Applications (no., kind, date): US 199316924 A 19930211

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 5354518	A	EN	10	17	

#### Alerting Abstract US A

In a first embodiment, a single-tubed catheter (1) of PVC containing 40 percent of plasticiser is heated to 80 deg.C for 5 minutes and then pressurised to 2 atmospheres for 5 minutes. It is then allowed to cool for 10 minutes at ambient temperature whilst still under pressure, after which pressure is released and the lumen (2a), which has expanded from 1.5 mm to about 2.3 mm, will retain its new dimension. An optical glass fibre bundle (3) comprising a lighting guide (5) disposed in crescent shape around an imaging guide (4) is then inserted into lumen (2a). The assembly is then heated to 100 deg.C for 10 minutes at atmospheric pressure to cause the catheter to contract firmly around the glass fibre bundle (3) to an overall diameter of about 2.3 mm. In a second embodiment, the catheter is first inserted into a rigid cylinder of predetermined inner diameter to limit the degree of expansion during the heating process. In a third embodiment, a rod of predetermined diameter is inserted into at least one of a multi lumen catheter, again to limit the amount of deformation taking place.

USE - For endoscopic viewing of internal body passages, e.g. blood vessels.

ADVANTAGE - Minimises the outer diameter of the catheter by shrinking the outer cover around the glass fibre bundle, leaving no empty spaces around the fibres. (Reissued from week 9440 to add EPI classifications/ Reprinted in week 9442)

**Title Terms /Index Terms/Additional Words:** MANUFACTURE; PROCESS; FIBRE; CATHETER; EXPAND; LUMEN; HEAT; PRESSURE; COOLING; INSERT; GLASS; BUNDLE; REHEAT; CONTRACT

**Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
A61M-0025/00	A	I		R	20060101
B29C-0061/08	A	I		R	20060101
A61M-0025/00	C	I		R	20060101
B29C-0061/06	C	I		R	20060101

US Classification, Issued: 264001250, 128004000, 264516000, 264573000, 264230000, 264342R00, 264DIG, 264001280

File Segment: CPI; EPI

DWPI Class: A96; S05; V07

Manual Codes (EPI/S-X): S05-D04; V07-F01A1B; V07-N

Manual Codes (CPI/A-N): A04-E02C; A08-P01; A11-B02E; A11-B08C; A11-B09A2; A12-L03A; A12-V03B; A12-V03C2



33/5/7 (Item 3 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0006708950 *Drawing available*

WPI Acc no: 1994-090061/

XRFX Acc No: N1994-070421

**Production of springs with non-circular wire section - employs plastics deformation of cylindrical springs by axial compression in constraining bush in conjunction with heating and ultrasonic vibration**

Patent Assignee: SPRING WASTE-FREE TECHN CENTRE (SPRI-R)

Inventor: MEDVEDEV S S; SOLOVEV O V; STAROV V N

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
RU 2003416	C1	19931130	SU 5046691	A	19920312	199411	B

Priority Applications (no., kind, date): SU 5046691 A 19920312

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
RU 2003416	C1	RU	5	2	

**Alerting Abstract RU C1**

The **method of production** of cylindrical springs from wire with non-circular cross section, e.g., rectangular, employs a tight-coiled cylindrical spring from round wire (delta) which is subjected to axial compression in a bush (1), between a plunger (3) and base plate (2), in conjunction with **heating** and ultrasonic vibration (B).

The resultant **tube** is then re-formed into a coil, e.g. in a rotating chuck, using a reciprocating wedge (g), **coaxial** bolt (z) or a rotary disc along the helix (e).

USE/ADVANTAGE - For springs subjected to large cyclic loads. This increases the functional and application range of the method. Bul.43-44/30.11.93.

**Title Terms /Index Terms/Additional Words:** PRODUCE; SPRING; NON; CIRCULAR; WIRE; SECTION; EMPLOY; **PLASTICS**; DEFORM; CYLINDER; AXIS; COMPRESS; CONSTRAIN; BUSH; CONJUNCTION; **HEAT**; ULTRASONIC; VIBRATION

**Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
B21F-035/00			Main		"Version 7"

File Segment: EngPI; ;

DWPI Class: P52

33/5/30 (Item 26 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0004523119

WPI Acc no: 1988-271040/198838

XRAM Acc no: C1988-120648

XRFX Acc No: N1988-205803

**Expansible member located in catheter - is obt'd. by forming thermoplastic resin tube and heating in moulding die, contacting with inner surface of die, cooling, etc.**

Patent Assignee: NOBUYOSHI M (NOBU-I); TERUMO CORP (TERU)

Inventor: NOBUYOSHI M; SAGAE K; SAKAE H; SUGIYAMA Y

Patent Family ( 12 patents, 9 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1988006465	A	19880907	WO 1988JP202	A	19880225	198838	B
AU 198813646	A	19880926				198851	E
EP 349640	A	19900110	EP 1988902208	A	19880225	199002	E
JP 1121066	A	19890512	JP 198746195	A	19870227	199027	E
			JP 198747977	A	19870303		
			JP 1987279698	A	19871105		
			JP 1987279699	A	19871105		
			JP 19887231	A	19880115		
JP 1121067	A	19890512	JP 198746195	A	19870227	199027	E
			JP 198747977	A	19870303		
			JP 1987279698	A	19871105		
			JP 1987279699	A	19871105		
			JP 19887231	A	19880115		
JP 63212373	A	19880905	JP 198746195	A	19870227	199027	E
			JP 198747977	A	19870303		
			JP 1987279698	A	19871105		
			JP 1987279699	A	19871105		
			JP 19887231	A	19880115		
JP 64002659	A	19890106	JP 198746195	A	19870227	199027	E
			JP 198747977	A	19870303		
			JP 1987279698	A	19871105		
			JP 1987279699	A	19871105		
			JP 19887231	A	19880115		
JP 1992044553	B	19920722	JP 1987279698	A	19871105	199233	E
US 5250069	A	19931005	US 1989432775	A	19891026	199341	E
			US 1991809219	A	19911216		
			US 1992890290	A	19920526		
EP 349640	B1	19940713	EP 1988902208	A	19880225	199427	E

			WO 1988JP202	A	19880225		
DE 3850656	G	19940818	DE 3850656	A	19880225	199432	E
			EP 1988902208	A	19880225		
			WO 1988JP202	A	19880225		
EP 349640	A4	19900816	EP 1988902208	A	19880225	199512	E

Priority Applications (no., kind, date): JP 1987279699 A 19871105; JP 1987279698 A 19871105; JP 198747977 A 19870303; JP 198746195 A 19870227; JP 19887231 A 19880115

#### Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1988006465	A	JA	79	38		
National Designated States,Original	AU KR US					
Regional Designated States,Original	BE DE FR GB IT NL SE					
EP 349640	A	EN				
Regional Designated States,Original	BE DE FR GB IT NL SE					
JP 1992044553	B	JA	8	0	Based on OPI patent	JP 01121066
US 5250069	A	EN	33	3	Continuation of application	US 1989432775
					Continuation of application	US 1991809219
EP 349640	B1	EN	41	38	PCT Application	WO 1988JP202
					Based on OPI patent	WO 1988006465
Regional Designated States,Original	BE DE FR GB IT NL SE					
DE 3850656	G	DE			Application	EP 1988902208
					PCT Application	WO 1988JP202
					Based on OPI patent	EP 349640
					Based on OPI patent	WO 1988006465
EP 349640	A4	EN				

#### Alerting Abstract WO A

A **catheter** has an expansible member for expanding a constricted portion inside a blood vessel which comprises an inner **tube** having a first lumen whose tip is open; an outer **tube** disposed **coaxially** with the inner **tube**, having the tip at a position recessed by a predetermined length from the tip of the inner **tube** and forming a second lumen between it and the outer surface of the inner **tube**; a contractible or foldable expansible member having the tip portion fitted to the inner **tube** and the base end portion fitted to the outer **tube**, and communicating with the second lumen near the base end portion; and a rigidity imparting member having a first opening communicating with the first lumen disposed at the base end portion of the inner **tube** and a second opening communicating with the second lumen disposed at the base end portion of the outer **tube**, and in at least one of the inner and outer **tubes** so as to extend in an axial direction.

Prodn. of an expansible member for use in a **catheter**, comprises forming a thermoplastic resin **tube** and **heating** an expansible member forming portion of this **tube**; disposing the **heated** expansible member forming portion of the **tube** in an expansible member moulding die the inner surface of which is formed in a shape obtainable when the expansible member is inflated; bringing the **heated** expansible member forming portion of the **tube** disposed in the expansible member moulding die into close contact with the inner surface of the moulding die by pressurising the inside of said **tube**; cooling the expansible member forming portion of the **tube**; removing the expansible member moulding die from the **tube**; and cutting the moulded expansible member portion off the **tube**.

**Title Terms /Index Terms/Additional Words:** EXPAND; MEMBER; LOCATE; **CATHETER**; OBTAIN; FORMING; THERMOPLASTIC; RESIN; **TUBE** ; **HEAT**; MOULD; DIE; CONTACT; INNER; SURFACE; COOLING

#### **Class Codes**

##### International Patent Classification

<b>IPC</b>	<b>Class Level</b>	<b>Scope</b>	<b>Position</b>	<b>Status</b>	<b>Version Date</b>
A61M-025/00; A61M-029/04			Main		"Version 7"

US Classification, Issued: 606192000, 606194000, 604096000, 604282000

File Segment: CPI; EngPI

DWPI Class: B07; P34

Manual Codes (CPI/A-N): B11-C04B

33/5/34 (Item 30 from file: 350) Links

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0004476649 *Drawing available*

WPI Acc no: 1988-219964/

XRAM Acc no: C1988-098245

XRFX Acc No: N1988-167674

**Flexible coaxial cable - comprising helically wound dielectric beading locked to inner conductor by heat shrunk dielectric tubing**

Patent Assignee: FLEXCO MICROWAVE (FLEX-N)

Inventor: LANDSMAN R; POTE W

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 4758685	A	19880719	US 1986933986	A	19861124	198831	B

Priority Applications (no., kind, date): US 1986933986 A 19861124

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 4758685	A	EN	7	10	

#### Alerting Abstract US A

A cable comprises: (a) a dielectric beading (20) helically wound on an inner conductor (22), (b) dielectric **tubing** (26) **heat** shrinkably locking the beading (20) to the inner conductor to maintain the pitch of the beading constant during flexing of the cable, and (c) a convoluted outer conductor formed by a corrugated **tube** (32) locked to the dielectric **tubing** (26) e.g. by crimping. The velocity of propagation of the **coaxial** cable is determined by the pitch setting and the dielectric material.

USE/ADVANTAGE - The invention provides a **flexible coaxial** cable whose electrical characteristics do not vary during flexure of the cable and this is important e.g. in aerospace applications. The velocity of propagation may be readily changed during mfr. of the cable.

**Title Terms /Index Terms/Additional Words:** **FLEXIBLE**; **COAXIAL**; CABLE; COMPRISE; HELICAL; WOUND; DIELECTRIC; BEADING; LOCK; INNER; CONDUCTOR; **HEAT**; SHRINK; **TUBE**; TFE; POLYOLEFIN; TETRA; FLUOROETHYLENE

#### Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
H01B-011/18; H01B-013/22			Secondary		"Version 7"

US Classification, Issued: 174029000, 029828000, 156055000, 156056000, 174028000, 333243000

File Segment: CPI; EPI

DWPI Class: A85; X12

Manual Codes (EPI/S-X): X12-D03A; X12-D03X; X12-D07X

Manual Codes (CPI/A-N): A12-E02

33/5/53 (Item 49 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0002276294

WPI Acc no: 1981-91131D/

**Monoaxial orientation of tubular PET parisons - by tensile drawdown through coaxial clamps near the glass transition temp.**

Patent Assignee: PLM AB (PLTM)

Inventor: JAKOBSEN K M; LARSEN L G; LARSON L G; NILSSON C T

Patent Family ( 50 patents, 18 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
BE 888995	A	19811127	BE 888995	A	19810527	198150	B
			BE 888999	A	19810527		
GB 2076734	A	19811209	GB 198327044	A	19831010	198150	E
FR 2483312	A	19811204				198202	E
FR 2483315	A	19811204				198202	E
NL 198102556	A	19811216				198203	E
NL 198102600	A	19811216				198203	E
NO 198101759	A	19811221				198203	E
SE 198004003	A	19820104	SE 19804003	A	19800529	198203	E
			SE 19808653	A	19801210		
			SE 19813302	A	19810526		
SE 198008651	A	19820104	SE 19804003	A	19800529	198203	E
			SE 19808653	A	19801210		
			SE 19813302	A	19810526		
SE 198103301	A	19820104	SE 19804003	A	19800529	198203	E
			SE 19808653	A	19801210		
			SE 19813302	A	19810526		
SE 198103302	A	19820104	SE 19804003	A	19800529	198203	E
			SE 19808653	A	19801210		
			SE 19813302	A	19810526		
DK 198102321	A	19820104				198205	E
BR 198103353	A	19820216				198209	E
FI 198101617	A	19820129				198209	E
JP 57018222	A	19820130	JP 198181783	A	19810528	198210	E
JP 57034925	A	19820225				198214	E
DE 3121524	A	19820609	DE 3121524	A	19810529	198224	E
DE 3121525	A	19820609	DE 3121525	A	19810529	198224	E
ZA 198103417	A	19820427				198229	E
ZA 198103572	A	19820503				198229	E
PT 74032	A	19820721	PT 74032	A	19811124	198232	NCE

GB 2092943	A	19820825	GB 198115986	A	19810526	198234	E
US 4405546	A	19830920	US 1982415013	A	19820907	198340	E
US 4416927	A	19831122	US 1982415014	A	19820907	198349	E
CA 1167616	A	19840522				198425	E
US 4462950	A	19840731	US 1983490027	A	19830429	198433	E
US 4468187	A	19840828	US 1983559666	A	19831209	198437	E
GB 2137553	A	19841010	GB 198115981	A	19810526	198441	E
GB 2076734	B	19841114				198446	E
GB 2092943	B	19841205				198449	E
CA 1178761	A	19841204				198502	E
GB 2137553	B	19850509				198519	E
US 4569866	A	19860211	US 1983490027	A	19830429	198609	E
US 4580968	A	19860408	US 1983489750	A	19830429	198617	E
CA 1204908	A	19860527				198626	E
CA 1205760	A	19860610				198628	E
CH 656091	A	19860613				198630	E
US 4631163	A	19861223	US 1983559666	A	19831209	198702	E
AT 198102410	A	19870615				198727	E
SE 451309	B	19870928	SE 19804003	A	19800529	198741	E
			SE 19808650	A	19801210		
			SE 19808651	A	19801210		
			SE 19808652	A	19801210		
			SE 19808653	A	19801210		
			SE 19813301	A	19810526		
			SE 19813302	A	19810526		
FI 198701442	A	19870402				198802	E
AT 198102414	A	19880315				198815	E
IT 1144570	B	19861029				198833	E
CH 668742	A	19890131				198909	E
JP 1989024045	B	19890510				198922	E
DE 3121525	C	19900517	DE 3121525	A	19810529	199020	E
DK 199000216	A	19900126				199022	E
US 4929168	A	19900529	US 1986921336	A	19861021	199026	NCE
JP 1991078248	B	19911213	JP 198181786	A	19810528	199204	NCE
DK 165824	B	19930125	DK 19812321	A	19810527	199309	E
			DK 1990216	A	19900126		

Priority Applications (no., kind, date): JP 198181786 A 19810528; BE 888995 A 19810527; SE 19813302 A 19810526; SE 19808653 A 19801210; SE 19808652 A 19801210; SE 19808651 A 19801210; SE 19808650 A 19801210; SE 19804003 A 19800529; SE 19813301 A 19810526



Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
BE 888995	A	FR	53			
SE 198004003	A	SV				
SE 198008651	A	SV				
SE 198103301	A	SV				
SE 198103302	A	SV				
BR 198103353	A	PT				
ZA 198103417	A	EN				
ZA 198103572	A	EN				
CA 1167616	A	EN				
CA 1178761	A	EN				
CA 1204908	A	EN				
CA 1205760	A	EN				
CH 656091	A	DE				
SE 451309	B	SV				
CH 668742	A	DE				
DK 165824	B	DA			Division of application	DK 19812321
					Previously issued patent	DK 9000216

**Alerting Abstract BE A**

**Tubular** profile of a crystallisable thermoplastic is converted into an oriented **tubular** parison by **heating** the profile sufficiently to obtain ductility, compressing part of the profile radially and then drawing more of the profile through one or more radially restricted orifices to reduce the profile wall thickness and induce a degree of orientation which would match that obtained by monoaxial extension of a flat plaque of the same material at the same **temperature** to the same degree of thickness reduction. Equipment for such a process is described having twin radially contracting clamps which can then be separated coaxially relative to the profile, the clamps being mounted on crossheads driven by contrarotating lead screws.

Esp. suitable for preparing parisons of **polyethylene terephthalate** for producing blow-moulded containers, esp. where excessive initial extension is reqd. to permit partial contraction of the parison during dilation to obtain a balance of biaxial orientation when making small containers (less than 0.5L).

**Title Terms** /Index Terms/Additional Words: MONOAXIAL; ORIENT; **TUBE**; PET; PARISON; TENSILE; DRAWDOWN; THROUGH; **COAXIAL**; CLAMP; GLASS; TRANSITION; **TEMPERATURE**; **POLYETHYLENE**; POLYTEREPHTHALATE

**Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
B29C-049/02			Main		"Version 7"
B29B-011/06; B29B-011/10; B29B-011/14; B29C-013/02; B29C-017/00; B29C-049/04;					

B29C-049/06; B29C-049/08; B29C-049/10; B29C-049/20; B29C-049/30; B29C-049/42; B29C-055/00; B29C-055/22; B29D-023/00; B29D-023/02; B29F-001/00; B29K-031/00; B29K-067/00; B29K-077/00; B29L-022/00; B29L-023/00; B29L-023/22; B65D-001/00; C08L-067/02; C08L-077/00; F16L-011/06			Secondary		"Version 7"
---	--	--	-----------	--	-------------

US Classification, Issued: 264159000, 264291000, 264296000, 264527000, 264532000, 425393000, 428036900, 428036920, 264292000, 264291000, 264293000, 264310000, 264312000, 264322000, 425363000, 072104000, 072105000, 072106000, 072107000, 425DIG, 425367000, 425385000, 425392000, 425393000, 428036920, 428036900, 428542800, 425393000, 264532000, 425DIG, 425384000, 264291000, 264296000, 425393000, 425384000, 072285000, 425393000

File Segment: CPI; EngPI

DWPI Class: A32; Q32; Q67

Manual Codes (CPI/A-N): A05-E04C; A11-B02; A11-B10; A12-P01

33/5/63 (Item 59 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0001311551

WPI Acc no: 1977-50241Y/

**Shrinkable tubular laminates by co-extrusion - of low density polyethylene and ethylene polymer containing blowing agent**

Patent Assignee: NAT DISTILLERS & CHEM CORP (NADI)

Inventor: STILES C J; TOMO D

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 4033929	A	19770705	US 1974433169	A	19740114	197728	B
			US 1977766114	A	19770207		
			US 1974433169	A	19740114		

Priority Applications (no., kind, date): US 1974433169 A 19740114

**Alerting Abstract US A**

A **tubular** laminate having an oriented foam layer is produced by co-extruding two **plastics** materials through **coaxial** annular dies.

The first **plastics** material is low density (0.89-0.939) **polyethylene** and the second is an intimate mixture of an ethylene **polymer** and 0.1-2% of a blowing agent having a decomposition range above the softening point but below the decomposition point of the ethylene **polymer**. The resulting **tubular** foam laminate is drawn down at 10-25 ft/minute and inflated at a blow-up ratio of 1-3:1 so that **heat** shrinkage in the machine direction is 70-90% and in the transverse direction 5-15%.

The inflated **tube** is cooled and cut to length to form a **tubular** pre-form. The non-foamed **polyethylene** is 10-20% of the thickness of the pre-form. The **tubular** laminate is seamless, lightweight, strong, uniform and opaque. It can be rapidly and uniformly **heat** shrunk onto a **tubular** substrate, e.g. a glass bottle, at 180-260 degrees C, pref. 200-220 degrees C for <=30 seconds.

**Title Terms /Index Terms/Additional Words:** SHRINK; **TUBE**; LAMINATE; CO; EXTRUDE; LOW; DENSITY; **POLYETHYLENE**; ETHYLENE; **POLYMER**; CONTAIN; BLOW; AGENT

**Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
B29C-027/20; B29D-027/00; B65D-011/16			Secondary		"Version 7"

US Classification, Issued: 264045900, 215012200, 264DIG, 264DIG, 264054000, 264173000, 264230000, 264321000, 428034900, 428318600, 428910000, 428913000

File Segment: CPI; EngPI

DWPI Class: A17; A32; L01; Q32

Manual Codes (CPI/A-N): A04-G01C; A08-B01; A11-B02; A11-B06B; A11-B07A; A11-B09D; A12-S06C;  
L01-G04

33/5/67 (Item 63 from file: 350) [Links](#)

Derwent WPIX

(c) 2006 The Thomson Corporation. All rights reserved.

0001061653

WPI Acc no: 1976-22750X/

**Sockets fored in plastics pipes in continuous production - using combined heater and expander permitting rapid operation**

Patent Assignee: WURTZ F (WURT-I)

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
DE 2419342	A	19760318	DE 2419342	A	19740422	197613	B
			DE 2419342	A	19740422		

Priority Applications (no., kind, date): DE 2419342 A 19740422

**Alerting Abstract** DE A

A **method of forming** sockets, optionally also beadings, on lengths of extruded **plastics tube** which are cut from the continuous extrusion in the production line is as follows: the stages of **heating**, expanding of the socket and cooling are all carried out in immediate succession, pref. merging one into another. The pipe may be moved forward either continuously or intermittently, along a straight or curved path. The **heating**, expanding and cooling devices are pref. all arranged **coaxially** one after another, the first two being formed as a single unit, in which the **heating** mandrel constitutes the centering device for the expanding mandrel and is permanently inside the **tube** during the expansion. Where the **heating** mandrel operates by radiant **heat**, its external diameter is slightly smaller than that of the pipe, whereas when it operates by direct conduction, it can be expanded to bring it into contact with the interior of the **tube**. The unit is connected by a rod to a piston rod of a symmetrical jack, which pushes two such units outwards in opposite directions so that two sockets are simultaneously formed in the ends of two pipes which have just been separated by cutting.

**Title Terms** /Index Terms/Additional Words: SOCKET; **PLASTICS**; PIPE; CONTINUOUS; PRODUCE; COMBINATION; **HEATER**; EXPAND; PERMIT; RAPID; OPERATE

**Class Codes**

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
B29C-017/02			Secondary		"Version 7"

File Segment: CPI

DWPI Class: A32; A88

Manual Codes (CPI/A-N): A11-B08; A12-H02

Set	Items	Description
S1	33961338	S METHOD? OR MEANS OR TECHNIQUE? OR PROCESS?? OR MANNER
S2	21026466	S MANUFACTUR? OR CONSTRUCT? OR PRODUC? OR MAKE? OR MAKING OR MADE OR FORMING OR MOLDING
S3	2430108	S CATHETER? OR CONDUIT? ? OR CANNULA? ? OR CANNULA? OR CANULLA? OR CANULA? OR TUBE? ? OR TUBING OR TUBUL? OR TUBIFORM? OR TUBELIKE?
S4	41234	S NEBULIZ? OR NEBULIS?
S5	1177	S MULTILUMIN? OR MULTI()LUMIN? OR MULTILUMEN? OR MULTI()LUMEN? OR DUALLUMEN? OR DUALLUMIN?
S6	3767309	S DOUBLE OR DUAL OR DUALY OR COAXIAL? OR COEXTEN? OR PARALLEL OR NESTED
S7	915804	S LUMEN? OR LUMIN? OR BORE? ?
S8	1996768	S S1(5N)S2
S9	2469160	S (S3 OR S4)
S10	12640	S S6(5N)S7
S11	9963081	S HEATED OR HEATING OR TEMPERATURE? OR MELT? OR THERMAL? OR WARM? OR MELD? OR COOK??? OR BAKE OR BAKES OR BAKING OR COMBUST? OR TRANSITION?(3N)TEMPERATURE?
S12	10	S S8 AND S9 AND (S10 OR S5) AND S11
S13	9	RD (unique items)
S14	3577	S S8 AND S3(5N)S11
S15	1673	S S14/1995:2006
S16	1904	S S14 NOT S15
S17	1818321	S (C OR V OR VEE OR U OR J OR JAY)(3N)(SHAPE? OR SHAPING) OR J()TYPE? ? OR HOOK? OR HOOK-SHAPE? OR FISHHOOK-SHAPE? OR CURV??? OR CURVILINEAR?
S18	7207054	S (TIP? ? OR END OR DISTAL? OR TERMIN? OR POINT)
S19	0	S S16 AND S17(3N)S18
S20	1	S S16 AND S17(5N)S18
S21	11870301	S MULTIPL? OR PLURAL? OR MULTI OR SEVERAL OR MANY OR (MORE OR GREATER OR EXCEED?)(2N)(ONE OR TWO OR SINGLE)
S22	2247780	S PORE? ? OR HOLE? ? OR OPENING? ? OR STOMA? ? OR APERTURE? ? OR ORIFICE? ? OR PORE? ? OR SLIT OR SLITS OR SLITTED OR PERFORAT? OR PIERC? OR VENT?? OR FENESTRA? OR PORT OR PORTS OR OUTLET? ?
S23	83196	S DS
S24	37658	S S21(3N) S22
S25	37658	S S21(3N)S22
S26	5	S S16 AND S25
S27	585	S S8(10N)(S3(5N)S11)
S28	22	S S27 AND S17
S29	16	S S28/1995:2006
S30	6	S S28 NOT S29

? show files

[File 155] **MEDLINE(R)** 1950-2006/Nov 28

(c) format only 2006 Dialog. All rights reserved.

*\*File 155: The file has resumed updating with UD20061120, with RT=IN DATA REVIEW and RT=IN PROCESS records.*

[File 73] **EMBASE** 1974-2006/Nov 30

(c) 2006 Elsevier B.V. All rights reserved.

[File 5] **Biosis Previews(R)** 1969-2006/Nov W3

(c) 2006 The Thomson Corporation. All rights reserved.

[File 94] **JICST-EPlus** 1985-2006/Aug W2

(c)2006 Japan Science and Tech Corp(JST). All rights reserved.

[File 144] **Pascal** 1973-2006/Nov W1

(c) 2006 INIST/CNRS. All rights reserved.

[File 34] **SciSearch(R) Cited Ref Sci** 1990-2006/Nov W4

(c) 2006 The Thomson Corp. All rights reserved.

[File 434] **SciSearch(R) Cited Ref Sci** 1974-1989/Dec

(c) 2006 The Thomson Corp. All rights reserved.

[File 35] **Dissertation Abs Online** 1861-2006/Nov

(c) 2006 ProQuest Info&Learning. All rights reserved.

[File 65] **Inside Conferences** 1993-2006/Nov 30

(c) 2006 BLDSC all rts. reserv. All rights reserved.

[File 45] **EMCare** 2006/Nov W4

(c) 2006 Elsevier B.V. All rights reserved.

[File 23] **CSA Technology Research Database** 1963-2006/Nov

(c) 2006 CSA. All rights reserved.

[File 6] **NTIS** 1964-2006/Nov W3

(c) 2006 NTIS, Intl Cpyrght All Rights Res. All rights reserved.

[File 8] **Ei Compendex(R)** 1970-2006/Nov W3

(c) 2006 Elsevier Eng. Info. Inc. All rights reserved.

*\*File 8: The file has been reprocessed and accession numbers have changed. See HELP NEWS988 for details.*

[File 323] **RAPRA Rubber & Plastics** 1972-2006/Oct

(c) 2006 RAPRA Technology Ltd. All rights reserved.

*\*File 323: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.*

13/7/3 (Item 1 from file: 5) [Links](#)

Fulltext available through: [SCIENCEDIRECT](#)

Biosis Previews(R)

(c) 2006 The Thomson Corporation. All rights reserved.

0015117389 Biosis No.: 200500024454

**Catheter and method for manufacturing the same**

**Author:** Ichikawa Noriyuki (Reprint); Sumino Takafumi

**Author Address:** Fujinomiya, Japan\*\*Japan

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1289 ( 1 ): Dec. 7, 2004 2004

**Medium:** e-file

**ISSN:** 0098-1133 \_(ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** For manufacturing a **catheter** having an inner **tube** forming a first **lumen** and an outer **tube** arranged **coaxially** with the inner **tube**, a second lumen being formed between the inner **tube** and the outer **tube**, a mandrel is inserted for retaining the first lumen into the inner **tube**, and an ultrasonic horn is applied to the outer surface of the outer **tube** for oscillating ultrasonic waves, thereby fusion bonding the inner surface of the outer **tube** to the outer surface of the inner **tube**. The particular method permits easily bonding the inner **tube** and the outer **tube** to each other. Also, since **thermal** deformation is small, it is possible to manufacture a **catheter**, in which the obstacle to the inflow of the inflation fluid into the inflatable member is very small, and which exhibits a rapid response to inflation and deflation of the inflatable member.



13/7/4 (Item 2 from file: 5) [Links](#)

Fulltext available through: [SCIENCEDIRECT](#)

Biosis Previews(R)

(c) 2006 The Thomson Corporation. All rights reserved.

0014203019 Biosis No.: 200300161738

**Multi-lumen catheter**

**Author:** Kelley Gregory S (Reprint)

**Author Address:** San Diego, CA, USA\*\*USA

**Journal:** Official Gazette of the United States Patent and Trademark Office Patents 1267 ( 4 ): Feb. 25, 2003 2003

**Medium:** e-file

**ISSN:** 0098-1133 (ISSN print)

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**Abstract:** A **multi-lumen catheter** and **method of manufacturing** such a **multi-lumen catheter** having a plurality of individual **catheter tubes**. Each **catheter tube** has an outer surface, an inner surface and a lumen. The **catheter tubes** can be made of different thermoplastic materials. A mandrel is first inserted into the lumen of each **catheter tube** to provide support. The **catheter tubes** are then juxtaposed to each other in an arrangement. Importantly, the outer surface of one **catheter tube** is in contact with the outer surface of at least one other **catheter tube** in the arrangement. The arrangement of **catheter tubes** is then held in a sleeve and is advanced through the sleeve, and through a **heating** cylinder to fuse the outer surfaces of the **catheter tubes**. A cooling means is placed in the lumen of each **catheter tube** to prevent the inner surface of each **catheter tube** from **melting**.

13/7/6 (Item 1 from file: 23) [Links](#)

CSA Technology Research Database

(c) 2006 CSA. All rights reserved.

0003236265 IP Accession No: 881152-2485

**A Mandrel Rod or Plug for a Rolling Line for the Manufacture of Seamless Tubes**

Staat, K Kocks Technik

**Publication Date:** 1987

, UK

**Record Type:** Abstract

**Language:** English

**File Segment:** Metadex

**Abstract:**

A mandrel rod or a plug for a rolling line for the manufacture of seamless **tubes** has a **coaxial** longitudinal **bore** for the feeding and discharging of coolant, such as water, and into which bore a guide element for conducting the coolant extends. In order to obtain improved dissipation of heat, this guide element is connected to the internal wall of the longitudinal bore in a **thermally** conductive **manner**, and the guide element is **made** from a material having particularly high **thermal** conductivity (e.g. Cu). Hence, it is possible to substantially increase the size of the heat-transferring surfaces and to increase the quantity of heat dissipated. Mandrel rods and plugs **constructed** in this **manner** may be subjected to greater mechanical and **thermal** stresses.

13/7/9 (Item 2 from file: 323) [Links](#)

RAPRA Rubber & Plastics

(c) 2006 RAPRA Technology Ltd. All rights reserved.

00489492

**Title: MANUFACTURING SYSTEM FOR THE COEXTRUSION OF MULTI-LUMEN TAPER TUBING FROM FLUOROPOLYMER**

**Author:** Scuralli J V

**Corporate Source:** Wayne Machine & Die Co.

**Conference Proceedings:** Medical Manufacturing. Conference Proceedings

**Corporate Editor:** SPE, Newark Section

**Source:** Newark, NJ, 28th March 1990, Paper 3.2.3. 6S

**Journal Announcement:** 199311 **RAPRA Update:** 199320

**Document Type:** Conference Papers

**Language:** English

**Subfile:** (R) RAPRA

**Abstract:** A description is given of fluoropolymer **tubing**, coextruded **tubing**, **multi-lumen tubing** and taper **tubing**. The different applications for each of these kinds of medical **tubing** are discussed. The extrusion equipment and process necessary to **manufacture** a high quality **tube** characteristic of all of these **tubing** types is explored.

26/7/2 (Item 1 from file: 23) [Links](#)

CSA Technology Research Database

(c) 2006 CSA. All rights reserved.

0004689764 IP Accession No: 199405-61-0507

**Tubular Intake Manifold and Method for Making Same**

Voss, K D CMI International

**Publication Date:** 1993

, USA

**Document Type:** Patent

**Record Type:** Abstract

**Language:** English

**File Segment:** Metadex

**Abstract:**

An intake manifold includes cast plenum and flange members defining a **plurality** of **outlet** and inlet holes therein. Tubes have opposite first and second ends which are received into the outlet and inlet holes with an interference fit and joined thereto with metallurgical bonds comprising a low melting point metal coating material, such as zinc, alloyed with the tube metal and each of the plenum and flange metals. The method includes coating the ends of the tubes and the walls of the holes with the molten coating material, heating the plenum and flange to an elevated **temperature** and then forcing the **tubes** into the holes to form the metallurgical bonds.

S1 623994 S CATHETER? OR CONDUIT? ? OR CANNULA? ? OR CANNULA? OR CANULA? OR CANULA? OR TUBE?  
 ? OR TUBING OR TUBUL? OR TUBIFORM? OR PIPETTE? ?  
 S2 3151441 S POLYMER? OR POLYETHYLENE? OR PLASTIC? OR FLEXIBL?  
 S3 1918128 S HEATED OR HEATING OR TEMPERATURE? OR MELT? OR THERMAL? OR WARM? OR  
 TRANSITION?(3N)TEMPERATURE?  
 S4 40933 S S1(10N)S2  
 S5 2770 S S4(S)S3  
 S6 1130 S S4(10N)S3  
 S7 20211816 S MANUFACTURING OR PRODUCTION OR PRODUCING OR MAKING OR MADE OR FORMING  
 S8 224 S S6(S)S7  
 S9 6 S S8 AND (MULTILUMIN? OR MULTI()LUMIN? OR MULTILUMEN? OR MULTI()LUMEN? OR DUALLUMEN?  
 OR DUALLUMIN? OR COAXIAL?)  
 S10 5 RD (unique items)  
 S11 5 S S10/1995:2006  
 S12 137 S S8/1995:2006  
 S13 7 S S12 AND (LUMEN? OR LUMIN?)  
 S14 6 RD (unique items)  
 S15 5 S S14 NOT S10  
 S16 5 S S15/1995:2006  
 S17 200 S S6 AND (PORES OR PORED OR HOLES OR HOLED OR OPENINGS OR STOMAE OR STROMAS OR  
 APERTURES OR APERTURED OR ORIFICES OR ORIFICED OR SLITS OR SLITTED OR PERFORATIONS OR PERFORATED OR  
 PERFORATE OR PIERCED OR VENTS OR VENTED OR FENESTRAS OR PORTS OR OUTLETS)  
 S18 159 RD (unique items)  
 S19 25 S S6(S)(PORES OR PORED OR HOLES OR HOLED OR OPENINGS OR STOMAE OR STROMAS OR  
 APERTURES OR APERTURED OR ORIFICES OR ORIFICED OR SLITS OR SLITTED OR PERFORATIONS OR PERFORATED OR  
 PERFORATE OR PIERCED OR VENTS OR VENTED OR FENESTRAS OR PORTS OR OUTLETS)  
 S20 21 RD (unique items)  
 S21 13 S S20/1995:2006  
 S22 8 S S20 NOT S21  
 S23 8 SORT S22/ALL/AU  
 S24 10938815 S (TIP? ? OR END OR DISTAL? OR TERMIN? OR POINT)  
 S25 658832 S (C OR V OR VEE OR U OR J OR JAY)(3N)(SHAPE? OR SHAPING) OR J()TYPE? ? OR HOOK? OR  
 HOOK-SHAPE? OR FISHHOOK-SHAPE? OR CURV??? OR CURVILINEAR?  
 S26 137 S S8/1995:2006  
 S27 87 S S8 NOT S26  
 S28 81 RD (unique items)  
 S29 0 S S28(S)(S24(5N)S25)  
 S30 756 S S6/1995:2006  
 S31 374 S S6 NOT S30  
 S32 0 S S31(S)(S24(5N)S25)

? show files

[File 9] **Business & Industry(R)** Jul/1994-2006/Nov 30

(c) 2006 The Gale Group. All rights reserved.

[File 16] **Gale Group PROMT(R)** 1990-2006/Nov 30

(c) 2006 The Gale Group. All rights reserved.

[File 160] **Gale Group PROMT(R)** 1972-1989

(c) 1999 The Gale Group. All rights reserved.

[File 148] **Gale Group Trade & Industry DB** 1976-2006/Nov 29

(c)2006 The Gale Group. All rights reserved.

[File 621] **Gale Group New Prod.Annou.(R)** 1985-2006/Nov 28

(c) 2006 The Gale Group. All rights reserved.

[File 441] **ESPICOM Pharm&Med DEVICE NEWS** 2006/Jun W1

(c) 2006 ESPICOM Bus.Intell. All rights reserved.

[File 149] **TGG Health&Wellness DB(SM)** 1976-2006/Nov W2

(c) 2006 The Gale Group. All rights reserved.

[File 15] **ABI/Inform(R)** 1971-2006/Nov 30

(c) 2006 ProQuest Info&Learning. All rights reserved.

[File 624] **McGraw-Hill Publications** 1985-2006/Dec 01

(c) 2006 McGraw-Hill Co. Inc. All rights reserved.

*\*File 624: Homeland Security & Defense and 9 Platt energy journals added Please see HELP NEWS624 for more*

[File 635] **Business Dateline(R)** 1985-2006/Nov 30

(c) 2006 ProQuest Info&Learning. All rights reserved.

[File 636] **Gale Group Newsletter DB(TM)** 1987-2006/Nov 30

(c) 2006 The Gale Group. All rights reserved.

[File 135] **NewsRx Weekly Reports** 1995-2006/Nov W4

(c) 2006 NewsRx. All rights reserved.

[File 98] **General Sci Abs** 1984-2006/Oct

(c) 2006 The HW Wilson Co. All rights reserved.

23/3,K/8 (Item 8 from file: 148) [Links](#)

Gale Group Trade & Industry DB

(c)2006 The Gale Group. All rights reserved.

04909471 **Supplier Number:** 10578743 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Heating greenhouses. (Polyon develops special plastic tube) (Plastics and Rubber)**

ICEN , v3 , n192 , p16(1)

Sept 5 , 1990

ISSN: 0792-3465

**Language:** ENGLISH

**Record Type:** FULLTEXT

**Word Count:** 211 **Line Count:** 00017

...special interest is a dual tube, produced by Polyon. In this design, two parallel water **tubes** are connected by a **perforated** strip of **plastic**. Seedlings planted through the **perforations** will be protected against **temperature** extremes. This allows crops to mature more quickly, increasing yields and enhancing quality.

PLUS Search Results for S/N 10606442 Searched Dec 18, 2006. The Patent Linguistic Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to present. PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

5964223  
6526976  
6729334  
20040084049  
20040084050  
5803078  
6464662  
5605147  
5642730  
6079413  
6572579  
5438982  
6454794  
5031613  
5860954  
5843033  
20040118407  
5443447  
5062423  
20030226566  
20040011364  
4343304  
6132460  
4781681  
4263907  
5425375  
5322057  
6044841  
6450163  
6237597  
6461644  
5186166  
5355872  
5503139  
5653223



5666948  
20050217666  
5254089  
5273527  
5389314  
5295962  
5368566  
5421826  
5509408  
5569184  
5616119  
6296847  
6511850  
4828550  
5257980  
5855203  
5896854  
6211904  
6211904  
20050279360  
6398775  
6475753  
5800443  
6099533  
5598840  
6772754  
5027809  
6136287  
5301663  
6260549  
6318361  
20040031485  
5690117  
4832012  
6041776  
5461695  
RE38700  
7036500  
20050235985  
20050247313

5324275  
5474542  
4781703  
4955375  
5049137  
5029580  
5277175  
5423882  
5478330  
5520644  
5935108  
5964796  
6575944  
6579254  
20030216698  
20040116997  
5431637  
5674195  
5951523  
6001085  
6615835  
20030125667  
20040097778  
6077257  
6126086  
4387879  
4508533  
5188596  
5250036  
5370608  
5380304  
5417653  
5700253  
5830157  
6022333  
6036716  
6113572  
6190347  
20060058831  
5355873

5775325  
20020120320  
5624395  
4344436  
6443147  
20020108614  
5325860  
5345940  
5713363  
4994042  
5282781  
5374247  
5409483  
5571173  
5725521  
5776115  
5951497  
6019772  
6159195  
6231524  
6235042  
6616675  
7144411  
20010029394  
20040059211  
20060135986  
5212365  
5272308  
5400665  
5454274  
5456247  
5607915  
5641662  
5814607  
5858784